MINUTES

OF THE

ENVIRONMENTAL PROTECTION COMMISSION

MEETING

JULY 8, 2008

KING'S POINTE RESORT
STORM LAKE, IOWA

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MEETING MINUTES

CALL TO ORDER

The meeting of the Environmental Protection Commission was called to order by Chairperson Henry Marquard at 9:15 a.m. on July 8, 2008 at King's Pointe Resort in Storm Lake, Iowa.

COMMISSIONERS PRESENT -

Suzanne Morrow, Secretary
Charlotte Hubbell, Vice-Chair
David Petty
Susan Heathcote
Henry Marquard, Chair
Martin Stimson
Ralph Klemme

COMMISSIONERS ABSENT

Paul Johnson

ADOPTION OF AGENDA

Change: Item 8 – Chapter 107 – should be a Notice of Intended Action
Change: Attachments for items 8 & 9 should be switched

Motion was made by Sue Morrow to approve the agenda as amended. Seconded by Susan Heathcote. Motion carried.

APPROVED AS AMENDED

ECOLOGICAL FUNCTIONS OF THE LAND

Power Point presentation was given by Kamyar Enshayan on Ecological Functions of the Land. For more details about the presentation, contact Kamyar Enshayan, Director of Energy & Environment at the University of Northern Iowa. kamyar.enshayan@uni.edu

Wayne Gieselman gave an update on floodplain management and history of the floodplain program.

Henry Marquard asked that in the next month, that Commissioners and the Director think of ways to be involved with floodplain management.

APPROVAL OF MINUTES

Charlotte Hubbell has amendments on the Prestage Farms portion for the May minutes. The amendments will be submitted to Lisa Nissen so they are reflected in the minutes and then approved at next month's meeting.

Commissioners agreed that a short and concise version of minutes would be sufficient from now on except when dealing with controversial items. Tapes are available in the Departments Record Center if individuals are interested in hearing more details about the meeting.

David Petty requested that the minutes have a faster turn around time after each meeting.

TABLED

DIRECTOR'S REMARKS

Director Richard Leopold said that every bureau has been involved with flooding issues. Time spent by staff and damage incurred are in the millions and still counting. FEMA has been very cooperative in working with our Department.

DNR has pushed back the opening date of Honey Creek Resort State Park to September 8th due to weather.

Regional discussions with the Director will begin in two weeks. The first visit is to Gull Point State Park with six other locations across the state to follow. The goal is to get out and meet staff and the public and to hear their concerns and ideas on how we can better achieve our mission.

Motion was made by Charlotte Hubbell that the Chairperson send a letter to the Governor requesting a special appropriation to the DNR for the costs incurred in flood and tornado response. Seconded by Susan Heathcote. Motion carried unanimously.

Richard Leopold and Henry Marquard agreed that a staff person could get the letter started.

INFORMATIONAL ONLY

PUBLIC PARTICIPATION

WALLY TAYLOR, representing the Sierra Club from Cedar Rapids said the petition for anti-degradation was filed because Iowa did not have the required anti-degradation rules. The DNR has done a great job in holding stakeholder meetings to involve all parties. There are a few issues that still need to be addressed but I believe they can be resolved in a short period of time.

We're concerned that some stakeholders may request for an extension of time for the process. An extension is not needed. The schedule needs to be followed.

STEVE ANDERSON, from Milford thanked the Commission for keeping their stream as A1 designation.

Under Iowa law, you can not discharge treated or partially treated wastewater into a natural lake, yet we have storm water that's coming in and depositing a high level of pollutants. Some cities are putting out ordinances but it would be great if the DNR could step in and help. I think we need to be looking at individual permits instead of general permits, then there's the ability to have public response.

It also seems like we are losing wetlands near or around lakes. Wetlands are important in that they act as a filter system for our lakes.

NEILA SEAMAN, from the Sierra Club said that she's glad to hear that the Department is taking a proactive approach to flooding issues.

I have met with a DNR representative regarding the manure on frozen ground rulemaking. We ask that you keep this rulemaking moving forward.

We are making progress on the anti-degradation rulemaking and we ask that you continue to stay on schedule. We have waited a long time for this. We want you to stay on schedule.

LINDA KINMAN, Des Moines Water Works presented the following items:

Des Moines Water Works is presenting comments today to raise concerns about the lack of consideration of drinking water wells and surface water sources used for drinking water when siting and permitting livestock facilities, which have the potential to contaminate. In the recent siting of a facility near Jefferson, Iowa and now two facilities in Northwest Dallas County we have discovered that any impact on source waters used for drinking water is not a consideration in the permit evaluation process.

The Raccoon River provides drinking water for the City of Panora and approximately 300,000 people in the Des Moines Metro area. A Total Maximum Daily Load (TMDL) was completed on the Raccoon River in 2007. The Department of Natural Resources state that, "…the TMDL addresses the entire Raccoon River Basin…In order to satisfy (the) Environmental Protection Agency's (EPA) requirements a TMDL…must address all potentially contributing sources that drain into the impaired segment – which means the entire watershed…is included…and a load allocation is assigned to all categories of non-point sources upstream of the impaired segment. So in the case of the Raccoon River…the "watershed area" for this TMDL is the entire Raccoon (River) Basin."

That Raccoon River basin is predominantly agricultural consisting of 73.2 percent in row crops of primarily corn and soybeans and is impaired for nitrates and bacteria. The TMDL indicates that 48-60 percent of the total nitrogen input comes from soil mineralization and nitrogen

fertilizer. Nitrogen from animal manure accounted for 12.6 to 16.0 percent of the total nitrogen inputs in the watershed. A nitrate TMDL target of 9.5 mg/l was used and the daily nitrogen loads exceeded the target across the range of flow conditions. Over the 10 year monitoring period almost 30 percent of the days exceeded the TMDL target. When exceedances occurred non-point sources contributed 89.9 percent of the nitrate load. During May and June more than 68 percent of the days exceeded the TMDL target and non-point sources contributed more than 99 percent of the nitrate load. Tile drainage was incorporated into the TMDL model with estimates suggesting that 77.5 percent of the row crop ground in the North Raccoon watershed may be tile drained. The report specifically states, "Point sources do not contribute substantially to the nitrate impairment…"

E.coli sampling data used for the TMDL suggests that all waters in the Raccoon River watershed could be considered as "not supporting their designated uses." Manure from hogs and cattle comprise 98 percent of the total bacteria population in the Raccoon River. The North Raccoon River at Jefferson will require an E.coli reduction of 99.7 percent for all measured samples to be less than the TMDL target.

As stated by EPA, "A TMDL improves water quality when the pollutant allocations are implemented, not when a TMDL is established." To reduce the amount of bacteria and nitrate reaching the Raccoon River, changes in land management will be needed. Consideration of ground water and surface water sources used for drinking water need to be analyzed when siting livestock facilities and not after the contamination occurs. The planning process under section 303(e) of the Clean Water Act provides the framework for implementing TMDLs, especially non-point source. Water quality management regulations in 40 CFR 130.6 require states to maintain water quality management plans that are used to direct implementation of key elements of the planning process, including TMDLs, effluent limitations, and non-point source management controls. This management plan is another way for states to describe how they will achieve TMDL load allocations for nonpoint sources.

The Raccoon River TMDL is 165 pages long. It is not a document that can be summarized in the two-three minute public comment period here today. But the TMDL provides the status of water quality, as of 2007 for the Raccoon River, again a source of drinking water for more than 300,000 Iowans and should be used in determining land use policies and practices to protect the river from additional contamination. And, just because one piece of code or one set of rules does not specifically say that the TMDL should be used in evaluation of land use and siting, we believe the state, through the DNR, is being negligent in their responsibility of protecting water resources used for drinking water in Iowa, if they do not consider a TMDL that is in place or sources waters used for drinking water. DMWW asks that commissioners table decisions with regard to any permits in the Raccoon River watershed until the TMDL is presented to and discussed by Commissioners, its relevance to the permit process identified, and what if any consideration should be given to drinking water sources, county tile lines, and other conveyances when siting and permitting new or expanding livestock facilities.

RYAN HOLTGRAVES, Iowa Environmental Council supports the rulemaking petition for manure on frozen ground. We ask that you continue to move forward with this rulemaking.

[Ryan submitted research that he gathered on State Rules Applying Manure to Frozen or Snow Covered Ground] We do need to be careful in comparing ourselves to other states in that our land is different. We have more CAFOs than other states.

SHANNON GARRETSON, from the Iowa Environmental Council said that they have been working with the Department on an anti-degradation policy. We believe that there is no justification for further delay in rulemaking. The Council's few concerns can still be addressed during the rulemaking process.

NICOLE MOLT, from Iowa Association of Business and Industry and **JESSICA HARDER**, from Iowa League of Cities.

As you know, we have submitted a petition for rulemaking. The other groups involved are the Agribusiness Association of Iowa, The Iowa Association of Business and Industry, Iowa Farm Bureau Federation, Iowa League of Cities, Iowa Limestone Producers Association, Iowa Renewable Fuels Association, Iowa Rural Water Association and the Iowa Water Pollution Control Association.

Jessica Harder said that they understand that the anti-degradation rules are required by the Clean Water Act. We do feel that there are some serious concerns that are still out there for the regulated community that have not been addressed. We want to be sure that it is practical, affordable, and possible to comply with the anti-degradation policy and the rules finally adopted in Iowa. Other groups today have mentioned that there are some issues that need to be discussed. We feel that pushing to get it done is not the best way to approach this. We want to be sure that all of the concerns are addressed and that it's a workable policy for the state.

Nicole Molt said that economic development in rural and urban areas is vital to competing in the global marketplace. Safeguards must be taken to ensure that Iowa is able to maintain its competiveness in today's advancing economy.

In closing, this proposal in its current draft negatively impacts both rural and urban areas in Iowa. It fails to balance a desire for improved water quality with the ability of Iowa citizens to solidify the financial burden.

KYLE BRINKMAN, farmer from Rolfe said that he is against the ban of manure application to frozen ground. I think that more scientific data and studies are needed to see if this is a real problem. Manure is an asset. We feel that a ban will tie our hands. We feel it's important to be able to continue this practice at our farm.

PETE HAMLIN, from MidAmerican said that they support the anti-degradation petition as submitted by the Association of Business and Industry as well as the other entities mentioned. We support simplifying the anti-degradation procedures. We believe the current petition is too burdensome. We believe that more work between DNR and stakeholders needs to be done before the formal rulemaking process begins.

SONIA SKIDMORE, ICCI member said that there will be benefits from going forward with a ban of manure on frozen ground for the larger facilities.

First of all, it's simple which has a number of benefits when dealing with implementation and enforcement. The more you complicate the rule, the more it becomes confusing for people.

Secondly, it targets the larger sites that have the potential to cause the most amount of harm. We understand there are some concerns with the smaller facilities but we also see that enforcing this it sends a clear message that spreading manure on frozen ground isn't acceptable.

We hope that you continue to consider our petition.

Sue Morrow read a letter from Jane Lieb, President of East Okoboji Lakes Improvement Corporation:

The East Okoboji Lakes Improvement Corporation (EOLIC) has been in existence for forty years working to fulfill the mission "To protect, enhance, and beautify the waters of East Okoboji, Upper Gar, Minnewashta, and Lower Gar Lakes through promotion of watershed stewardship and education."

The Board of Directors of EOLIC has voted to nominate all of the lakes of the Iowa Great Lakes as Outstanding Iowa Waters in order to prevent new sources of pollution from lowering water quality in these high quality natural lakes. We support the draft rules that would not allow general permits for activities that could impact water quality designated as an OIW or ONRW. Issuing individual permits for these activities would require a public notice and/or opportunity for the public to comment on these projects, something our community would support.

EOLIC is also glad to see that Iowa DNR plans to begin the rule making procedure in September. We encourage the Environmental Protection Commission to not allow any further delays in implementing the Anti degradation Implementation Procedure.

----------End of Public Participation----------

PROPOSED RULE - CHAPTER 61 – WATER QUALITY STANDARDS, ANTIDEGRADATION POLICY

Lori McDaniel of the Water Quality Bureau presented the following item.

The department plans to bring a Notice of Intended Action in September to amend Chapter 61: Water Quality Standards to revise the Antidegradation Policy. Antidegradation policy is one of the three components of water quality standards (i.e. designated uses, water quality criteria to protect those uses, and antidegradation policy). The purpose of the antidegradation policy is to set minimum requirements for the state to follow in order to conserve, maintain, and protect existing uses and water quality. The department is required by 40 CFR 131.12(a) to develop and adopt a statewide antidegradation policy and to identify procedures for implementing the policy.

The department is proposing a four-tiered approach and guidance document establishing procedures for implementing the antidegradation policy. The proposed antidegradation policy rule, implementation procedures, and other related items can be found at the following web address: http://www.iowadnr.gov/water/standards/antidegradation.html. The four-tiered approach includes:

Tier 1. Existing surface water uses and the level of water quality necessary to protect the existing uses will be maintained and protected.

Tier 2. Where the quality of the waters exceed levels necessary to support propagation of fish, shellfish, and wildlife and recreation in and on the water, that quality shall be maintained and protected unless a review of reasonable alternatives and social and economic considerations justifies the degradation. Such a review will need to be demonstrated in an alternatives analysis, which is an evaluation that must explore non-degrading and less-degrading pollution control measures.

Tier 2 ½ - Outstanding Iowa waters. Where high quality waters constitute an outstanding state resource, such as waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

Tier 3 - Outstanding national resource waters. Where high quality waters constitute an outstanding national resource, such as waters of National and State parks and wildlife refuges and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

INFORMATION

ICCI ET AL. PETITION FOR RULEMAKING REGARDING THE APPLICATION OF MANURE ON FROZEN GROUND

Claire Hruby presented the following item.

At the Commission's May 2008 meeting, Iowa Citizens for Community Improvement (ICCI) et al. presented a Petition for Rulemaking. The Petition requests that the Commission institute rulemaking proceedings banning the application of manure on frozen ground.

561 IAC 5.4(2) requires the Commission to grant or deny the Petition within 60 days unless the petitioner agrees to a longer period. ICCI has met with Department staff regarding separate Department rulemaking on this subject as directed by the Commission at the May 2008 meeting. ICCI intends to submit a letter to the Commission agreeing to an extension regarding Commission action on its Petition and also to correct an error in its Petition pointed out during

the Commission's June 2008 meeting. Their intention is to limit the ban to facilities that are required to have a manure management plan.

INFORMATION

AMENDMENT TO THE AGREEMENT BETWEEN DNR AND THE IOWA DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP FOR THE IMPLEMENTATION OF CLEAN WATER STATE REVOLVING FUND NON-POINT SOURCE PROGRAMS

Lori McDaniel in the Water Quality Bureau presented the following item.

Recommendation:
Commission approval is requested for an amendment to the agreement between DNR and the Iowa Department of Agriculture and Land Stewardship, Division of Soil Conservation (DSC). The original agreement, which was approved by the Commission in June 2007, covered the Local Water Protection Program and storm water best management practices. The proposed amendment would add duties relating to the Livestock Water Quality (LWQ) Facilities program and extend the agreement for an additional year.

The agreement began on July 1, 2007 and would terminate on June 30, 2010 if the amendment is approved.

Funding Source:
The funding for this agreement comes from the administrative accounts of the Clean Water State Revolving Fund (CWSRF). A cost savings of approximately $50,000 per year will be achieved by eliminating the current LWQ program agreement with the Iowa Agricultural Development Authority (IADA) and transferring the LWQ program to DSC.

Background:
The Livestock Water Quality Facilities program is one of four non-point source loan programs funded through the CWSRF. The program was started in 2005 with a pass-through loan agreement with IADA. The intent was for the SRF to provide funds to IADA with which to make direct loans to livestock producers. IADA was unable to make this approach work because it could not achieve a loan position that ensured repayment. IADA abandoned the pass-through lender role and began to arrange linked deposit loans through participating local lenders.

In 2006, a new agreement was enacted between DNR, IADA, and the Iowa Finance Authority (IFA) to reflect the new financing arrangement. IADA's role was to work with borrowers to complete applications and work with lenders and IFA to approve final loan amounts. DNR continued to provide technical project approval based on information provided by the applicants and IADA.

The IADA agreement expired June 30, 2008. During the spring of 2008, DNR explored the options of renewing the IADA agreement, or transferring the program to DSC. The decision was made to amend the DSC agreement to include the implementation of the LWQ program based on the following:

- DSC is highly successful in implementing the Local Water Protection Program through the involvement of the local Soil and Water Conservation Districts (SWCDs).
- Many of the LWQ projects are designed and/or approved through the Natural Resources Conservation Service staff in local SWCDs.
- Audiences for the two programs often overlap.
- Program participants and lenders have been confused over having to deal with two different program processes and different agencies for applications and approvals.

Purpose:
The amendment to the DSC agreement adds the LWQ program to the work that DSC is already doing on the Local Water Protection Program, including:

- Working with the SWCDs to implement the program;
- Incorporating LWQ projects into a joint application form;
- Coordinating with DNR AFO staff on practice and project eligibility;
- Working with lenders to approve final loan amounts; and
- Maintaining a web site and point of contact for program information.

Motion was made by Susan Heathcote to approve the contract as presented. Seconded by Charlotte Hubbell. Motion carried unanimously.

APPROVED AS PRESENTED

CONTRACTS – UTILITY MANAGEMENT ORGANIZATION GRANTS FOR WASTEWATER SERVICES TO SMALL AND UNSEWERED COMMUNITIES

Lori McDaniel in the Water Quality Bureau presented the following item.

Recommendation:
This is the third year that DNR has held a competitive solicitation for UMO grants. Since the purpose of the grants is to assist UMOs to start up wastewater services and to become self-sufficient, this year's Request for Proposals identified three levels of possible funding:

Level 1: UMOs that received funding in 2006 and 2007
Level 2: UMOs that received funding only in 2006 or 2007
Level 3: New applicants

The maximum grant amount for Level 1 applicants was established at $40,000. Level 2 and 3 applicants could apply for up to $50,000.

Commission approval is requested for one-year contracts to the following utility management organizations (UMOs):

- ADLM Facilities Management Systems (Level 1)
- Eastern Iowa Regional Utility Service Systems (Level 1)
- Regional Utility Service Systems (Level 1)
- Rural Utility Solutions (Level 2)
- Wastewater Management Services of Central Iowa (Level 2)
- Xenia Rural Water District (Level 2)

The contracts will begin on July 8, 2008 and terminate on June 30, 2009.

Funding Source:
The funding for these contracts comes from $270,000 approved in the FY 2009 Clean Water State Revolving Fund (CWSRF) Intended Use Plan. A portion of the loan fees paid by CWSRF borrowers (non-program income) may be used for general water quality efforts, and the DNR has proposed using it to support regional efforts to address wastewater needs for small communities.

Background:
Many rural communities in Iowa provide little or no wastewater treatment. Discharge of untreated or partially treated waste presents a significant human health risk and potentially degrades ground and surface water quality. Viable waste treatment solutions are difficult and costly, often exceeding the local capacity for planning, financing, and management. Even small rural communities currently served by a wastewater system often lack adequate managerial capability to ensure they are operating in a manner which protects the environment and public health.
Regional utility management organizations (UMOs) can assist these communities by providing management services to handle planning, financial capacity, permitting, operations, and delivery of services. UMOs have been organized to operate on a multi-county and multi-community scale.

UMO organizations need start-up funds until they reach the point where they are managing enough systems and have enough customers to be financially self-sustaining. Four UMOs were assisted by DNR in fiscal year 2007. DNR held a second competitive solicitation and selected five UMOs to receive grants during fiscal year 2008.

We have been successful in working with three types of management organizations: rural water associations, multi-county 28E cooperative management programs, and a multi-county environmental health group.

The third round of grants reduces the amount that previously funded UMOs can receive. DNR is encouraging the UMOs to develop clear strategies and timelines for replacing the state grant funds with locally generated support and revenues.

Purpose:

These contracts have been created to help build sustainable utility management organizations (UMOs). These groups are to manage the wastewater infrastructure in small communities that are unincorporated and/or too small to effectively manage this infrastructure. These management entities will help establish wastewater infrastructure in unsewered communities and offer to manage the infrastructure in somewhat larger communities that could benefit from this service.

The following tasks will be carried out by each of the grantees:

Task 1: Contractor shall develop a plan of action based on the Project Work Plan contained in its 2008 Proposal. The plan of action shall include specific steps and activities to carry out the work plan, identification of communities to be served and services to be provided. The plan of action will explain how each activity is contributing to the goal of self-sufficient operation.

Task 2: Contractor shall consult with participating counties, county sanitarians, DNR field offices, and DNR wastewater staff to refine the prioritization of unsewered communities within its service area.

Task 3: Contractor shall prepare and submit to DNR for approval quarterly reports addressing progress toward implementing the plan of action described in Task 1. The quarterly reports shall address each item in the plan of action and provide an update on activities, results, and lessons learned. The quarterly reports shall also include:

- Examples of procedures, documents, and other materials developed during the project;
- Detailed accounting of project expenditures, including grant and other sources of funds; and
- Plan for addressing any outstanding work products or Contractor tasks and milestones

The last quarterly report will provide a summary of the grant period and will serve as a final report.

Task 4: Contractor shall attend quarterly UMO update meetings scheduled by the DNR. Contractor shall attend a business development workshop as requested by DNR.

Task 5: Contractor shall submit to DNR for approval an updated Business Plan and implementation strategies for running a wastewater utility management organization with a comprehensive financial plan. The Business Plan shall include but shall not be limited to:

- How current grant funds will be replaced and on what schedule
- Potential other sources of funding
- Analysis of organizational structure
- Marketing strategy to gain additional systems and customers
- A financial plan
- A description of experience acquired through the process to date

Selection Process:

Six proposals were received from the UMOs listed above in response to a Request for Proposals. A selection committee was made up of program directors from DNR, the Iowa Department of Economic Development, and U.S. Department of Agriculture Rural Development. Each of the proposals was considered worthy of funding due to each UMO's progress in previous funding cycles and plans for the coming year.

Lori McDaniel said that they do track their progress and money expenditures.

Henry Marquard said that he would like to see more promotion of this program.

Motion was made by Ralph Klemme to approve the contract as presented. Seconded by Susan Heathcote. Motion carried unanimously.

APPROVED AS PRESENTED

AMBIENT STREAMS AND LAKES MONITORING AND LABORATORY SUPPORT CONTRACT – UNIVERSITY OF IOWA HYGIENIC LABORATORY

Mary Skopec, Ph.D., Supervisor of the Watershed Monitoring and Assessment Section, Iowa Geological and Water Survey presented the following item.

The Department requests Commission approval of a contract in the amount of $983,813 with the University of Iowa Hygienic Laboratory (UHL) for monitoring and analytical services for stream and lake ambient water quality monitoring.

This contract encompasses the majority of surface water monitoring conducted as part of the state-wide water monitoring program and is the primary basis for assessing the state's stream water quality. The purpose of the monitoring program is to define the condition of Iowa's water resources, characterize existing and emerging issues by geographic extent and magnitude, measure changes or trends in Iowa's water quality, and provide information to citizens and decision-makers. To meet these goals, the Department utilizes UHL for field sampling and analytical services. As part of this contract, UHL collects water samples at 80 stream sites throughout the state on a monthly basis and analyzes the water for a variety of parameters including nutrients, bacteria, and water chemistry. Twenty-three of these sites are located upstream and downstream of 10 large cities to measure the influence of urban areas on surface water quality. The contract also provides field and analytical support for monitoring on 127 of Iowa's significantly and publicly owned lakes. The lakes are monitored three times during the field season for basic water chemistry, nutrients, plankton composition, and clarity. The lake data provides valuable information to the Department's Lake Restoration Program. In addition, the contract also provides analytical support for samples collected by the Department on priority lakes for assessment, restoration, or follow-up monitoring.

The contract contains provisions for special water quality studies that allow the Department to follow-up or verify abnormal results or pursue questions in greater depth or to develop monitoring partnerships with local watershed groups to collect data on watersheds of interest. Lastly, the contract provides analytical support for the contaminated sites section and underground storage tank section. This support is for samples submitted by the Department for compliance checks.

Funding for this contract comes from the Environment First Infrastructure Funds – Water Quality Monitoring Funds, LUST Trust Fund, RSIP Grants, State Hazardous Waste Remedial Funds, and Land Recycling Program fees, and State Lake Restoration Funds.

Motion was made by Charlotte Hubbell to approve the contract as presented. Seconded by Sue Morrow. Motion carried unanimously.

APPROVED AS PRESENTED

MANURE ON FROZEN GROUND PRESENTATION

Claire Hruby passed out a handout containing the following information.

Preliminary planning, discussion, and information gathering has begun with respect to rule making regarding manure application on frozen or snow-covered ground. This effort will be coordinated by Claire Hruby, a geologist that has been working with the DNR's Animal Feeding Operation program for 5 years. An internal workgroup has been identified including Field Office, Communications, and Legal staff. Several other stakeholders and interested parties have been contacted to-date including representatives of the agricultural and producer groups, environmental organizations, university researchers and extension experts, nutrient applicators, drinking water agencies, and Iowa Geological and Water Survey staff. Depending on the complexity of the rule, a draft could be filed as early as September. The earliest such a rule could be enforced would be winter of 2009. The initial findings are summarized in this document, and the questions that must be addressed as part of this rule-making process will also be presented.

The Practice

As stated in the motion, this rule is intended to restrict surface application of manure on ground made impermeable by freezing soil moisture, snow pack or surface ice. If manure is injected or incorporated this rule would not apply. Proper injection is thought to be impossible with more than 4 inches of snow. Application during overnight freezes in the spring should be allowed (when the first ½ inch or less of soils is frozen or when there is less than 1 inch of snow). Research by Discovery Farms in Wisconsin, shows that a single application of liquid manure on frozen ground that is not snow-covered can infiltrate soil through macropores, such as worm burrows. Solid cattle manure, especially that which contains bedding materials, has been shown to reduce soil erosion (Young and Holt, 1977), and should be considered separately. Further consideration of manure types, facility types, and soil and weather conditions will be necessary.

Winter application and water quality in early 2008

It is important to first understand more about the practice as it has occurred in Iowa and what the measured impacts on water quality have been. Several producers confirmed that a wet fall followed by an early freeze contributed to the decision to apply on frozen ground during the winter of 2007-2008. No surveys are available documenting the frequency of this practice, so we must rely on field observations. Multiple incidences of manure application on frozen and snow-covered ground were observed by Field Office specialists resulting in documented elevated ammonia levels and other water quality

impacts.

During the period of high ammonia values reported by Des Moines Water Works and others this past spring, staff from Field Office #4 visited the Brushy Creek watershed (Carroll County) and observed fields where liquid swine manure had been applied to snow-covered ground. Several photos were taken documenting impact of runoff from these fields on surface water. Puddles in these fields, tile outlets, and stream water samples were field-tested using Hach kits. Ammonia measured by these kits showed that manure application did impact ammonia levels in Halbur Creek, a tributary of Brushy Creek. On a positive note, staff observed significant improvements in manure storage on open feedlots that had been cited with violations as a result of the 2005 fish-kill in the watershed.

In response to a complaint, staff from Field Office #2 visited a site in Hardin County where poultry manure had been land applied on frozen snow-covered ground. Staff estimated that approximately 40% of the application field had slopes over 4%. The Hach test-kit indicated that water ponded in the field had an ammonia concentration greater than 3.0 mg/L. A sample was taken and sent to University Hygienic Laboratories. The lab reported 20 mg/L ammonia nitrogen, 120 mg/L TKN, and 1.1 mg/L nitrate + nitrite. A few weeks later the site was revisited and water quality violations were documented. After further investigation, a Notice of Violation was issued and a $6000 penalty was paid.

Ammonia levels are often elevated in spring melt-waters especially after long cold snowy winters when opportunities for volatilization are limited. There are multiple sources of ammonia and it is difficult to determine relative contributions of these sources statewide, however, we can conclude that application of manure on frozen ground contributed to the elevated ammonia levels in the Brushy Creek watershed (Carroll County) this past spring. Elevated ammonia concentrations are a concern for drinking water facilities that depend on surface water as their source water due to the increase in chlorine necessary for treatment, the formation of dichoramine which lead to taste and odor problems, and the potential for the formation of disinfection byproducts which are regulated contaminants. Loss of nutrients should also be a concern to crop producers given the high value of manure as fertilizer. Toxic conditions resulting from high ammonia levels were not documented in large streams (see attached “Ammonia08” report). Although pH and temperature data is limited, it is likely that ammonia standards set for aquatic life were violated in the Brushy Creek watershed. Fortunately low water temperatures favor the ionized form of ammonia (NH_4^+) as opposed to the un-ionized form (NH_3), which is toxic to fish.

Impacts of Rule Making

It is generally understood that only a small fraction (perhaps between 1-5%) of producers find it necessary to apply manure to frozen or snow covered ground in any given year. These tend to be older and smaller facilities with insufficient storage capacity and/or poorly managed storage. To some it may seem like a waste of effort to attempt to change the behavior of a small percentage of producers, however, given the recent rise in animal numbers (especially swine), the concentration of animals in certain areas, and the documented water quality challenges, a small change could make a big difference. It is also important to consider that a statewide ban on manure application on frozen or snow-covered ground could force producers to apply in the spring when the ground is saturated or in early fall when the potential for leaching nitrogen is high. A thorough review of

current research and expertise will be necessary to ensure that any change in state policy results in improved water quality. The best outcome of this process will be to inform producers of best management practices and to give them the tools to continuously evaluate and improve their management techniques. While regulations are necessary to discourage the worst practices, empowering producers to make better management decisions will benefit both the economy and improve the quality of our water resources.

Finally, it is also important to consider that Iowa's soils have a finite capacity to hold nutrients and water. While it appears that market forces may slow the growth of animal agriculture, effort should be made to evaluate the capacity of Iowa's soils to sustain additional animals. The technology is now available to help us make more meaningful (science-based) decisions about permitting and manure management, and to communicate that information to producers and the public.

Options

We are currently faced with three choices. We can choose to ban manure application on frozen or snow-covered ground statewide as proposed by Iowa Citizens for Community Improvement (ICCI) as presented in a petition to the EPC on May 13, 2008. While this petition states the groups' intention to impact only facilities that require manure management plans, the text of their proposed rule change appears to apply to all confinement operations. For the time being they have agreed to extend their petition for at least another 30 days (until the August EPC meeting) while they evaluate the DNR's attempt at rule writing. The second choice is to develop rules as the EPC motion suggests that would further regulate the practice and could prohibit surface application of manure on frozen or snow-covered ground under certain conditions, during certain times, or in certain areas. Finally, the third option is to continue to enforce the existing rules without modification. Regardless of the outcome of the rule-making, DNR is committed to working with its partners to educate producers and the public about best management practices.

Iowa's Current Regulations and Enforcement

Rules relating to animal feeding operations are found in 567 Iowa Administrative Code – Chapter 65. 65.3(5) describes restrictions on the application of manure including 65.3(3)*g.*, which prohibits application of manure that is not injected or incorporated on the same date as applied, within 200 feet from a designated area or 800 feet from a high quality resource water, unless a 50-foot area with permanent vegetation cover exists. 65.3(4) includes recommended practices for manure application including 65/3(4)*c.*, which states that *"Manure application on frozen or snow-covered cropland should be avoided where possible. If manure is spread on frozen or snow-covered cropland, application should be limited to areas on which: 1) land slopes are 4% or less, or 2) adequate erosion control practices exist."* Additional recommendations regarding application on areas subject to flooding, areas adjacent to water-bodies, and steeply sloping cropland are also included. Also, by law anyone applying or transporting manure must be a certified manure applicator. Chapters 67, 68, and 121 regulate the application of sewage, septage and solid waste, but these do not apply to manure application. In general, these rules restrict application away from waterways and to land with slopes less than 5% if applied to frozen or snow-covered ground. Chapter 61 describes water quality standards. Any water quality impacts that result from land application of manure are subject to these rules.

NPDES permits issued to some open feedlots include a prohibition on surface

application of manure on frozen or snow-covered ground.

Currently, if Field Office staff observe manure applied to frozen or snow-covered ground that is not in violation a separation distance requirement or causing water quality violation, they are likely to have to return to that site during a subsequent melt event in order to document a violation. This is often difficult when staff are busy responding to other issues, often many counties away. When they are able to return, significant effort and some expense is required to thoroughly document cause-and-effect including photography, field testing, and sampling water to be sent to a lab for analysis.

Surrounding States

According to the National Agricultural Census Data, Iowa has considerably more animals in higher concentrations than any of the surrounding states, and numbers of some animal types have increased significantly in the past few years.

Wisconsin, which has mostly large dairies and turkey operations, has gone through the most recent rule-making related to manure application on frozen and snow-covered ground. Surface application of manure is prohibited in Wisconsin in February and March and on fields with 5 feet or less of soil above fractured bedrock. Liquid manure application is prohibited in winter except in emergencies. Solid manure is not allowed in winter on land with slopes greater than 9%. In addition, Wisconsin's new rules restrict application on saturated ground. These rules apply to facilities that are required to have WPDES permit, which are generally animal feeding operations with more than 1000 animal units. Some facilities were given until 2010 to install 6 months of storage. Conditions where emergency application is allowed are carefully defined. A summary of Wisconsin's rules can be found at:
http://dnr.wi.gov/runoff/pdf/rules/nr243/WinterSpreading.pdf

There is a lot of variation between other nearby states, but all identify surface application of manure on frozen or snow-covered ground as a high risk practice. Minnesota general permit prohibits surface application in winter within 300 feet of protected areas, where slopes are greater than 2% for liquid manure, where slopes are greater than 6% for dry manure, or where the upper 6 inches are saturated. Illinois refers to an NRCS best management practice (BMP) document for guidance. Missouri's CAFO permit references a BMP document which prohibits surface application when soils are frozen or saturated. Kansas prohibits liquid application on frozen or snow-covered ground except in emergencies when application is approved by the secretary; solid manure is allowed if applied waste can be retained onsite. Most of these state rules refer to CAFO's. A publication summarizing regulations in the Canadian provinces shows that most recommend avoiding application of manure on frozen or snow-covered ground (Fleming and Fraser, 2000). This publication is also useful because it has a good scientific literature review.

Literature Review

A complete review of the scientific literature has not yet been completed, but a summary of the materials reviewed to-date is included below.

• Greatest nutrient losses occur when manure is applied in late winter shortly before snowmelt (Lorimer and Melvin, 1996; Komiskey, 2006)

• Nitrogen lost in runoff following winter dairy and open lot manure spreading varied from negligible levels to 20% of the manure-N applied (Komiskey, 2006)

• Not all frozen soils are impermeable. Where open pores exist loss of N to runoff can be minimal. (Steenhuis at al., 1981; Converse at al., 1976; Frame, personal

communication)
• Higher amounts of N from liquid dairy manure were lost due to early fall application through leaching than due to winter application (Gupta et. al, 2004)
• A six-year study of application of liquid dairy manure showed that higher concentrations of N, P, and K occurred in runoff when manure was applied in winter as compared to spring and fall applications (Philips et. al., 1981)
• Over a 2-year field study where dairy manure was applied to frozen ground, average losses of N, P, and K were 10%, 6%, and 8% respectively (Hensler et al., 1970)
• Application rates and weather conditions played a large role in determining the amount of nutrients list in runoff from dairy manure applied in winter. Excessive nutrient losses occurred when manure spreading occurred during active thaw periods. Minimal losses were seen when manure was applied and then covered with snow that melted at a much later date. (Klausner et al., 1976)
• Losses from manure applied to corn stubble were higher than for manure applied to bean stubble due to the difference in snow accumulation (Lorimer and Melvin, 1996)
• Spreading manure in winter does not guarantee pathogen die off. E. coli survival is greater under cooler water temperatures. Freezing conditions can be lethal to fecal bacteria. (Tamasi, 1981; Stoddard et. al, 1998; Kibbey et al., 1978)

Discussions with Stakeholders
Similar issued were brought up by DNR staff and stakeholder groups. Here is a list of those issues.
• Will a rule prohibiting manure on frozen ground improve Iowa's water quality? How can we measure the impact of changes in policy?
• How do we define frozen or snow-covered ground?
• Who and what should this rule apply to? *Confinements? Open feedlots? Liquid manure? Solid manure?*
• What geographical criteria should be used to prohibit surface application of manure on frozen or snow-covered ground? *Slopes? Floodplains? Tile intakes? Streams? Impaired watersheds?*
• Should there be exceptions for small dairies that currently scrape and haul daily?
• Should facilities with insufficient storage be phased-in?
• Should there be any additional documentation in MMP's or onsite plans for winter application?
• How should we handle emergency situations?
• How will the rule be implemented?

Implementation
The final question is 'How would the rule be implemented?' Some of the potential criteria are mappable such as streams, lakes, slopes, ag drainage wells, sinkholes, and other land features. Statewide floodplain maps are not currently available. Locations of tile intakes are also too numerous and subtle to be accurately mapped even using recent technology (LIDAR). Maps of prohibited or restricted zones could be shared with the public using the AFO Siting Atlas (http://www.iowadnr.gov/mapping/maps/afo_siting_atlas.html), an online interactive map that allows people to view DNR maps at the scale of their choosing. These maps have already proved useful for communication with producers about karst regions, major water sources, alluvial soils, designated wetlands and other issues relating to siting restrictions. This website can also be used by the public to view mapped locations of confinements

and open feedlots. Multiple forums currently exist for communication of rules and best management practices, such as the Iowa Manure Management Action Group (IMMAG) and the Heartland Regional Animal Manure Management Newsletter.

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Susan Heathcote asked if the ban should include all manure rather than just liquid?

Claire Hruby said that it's something that needs to be defined but liquid manure is the greatest concern because there is a greater risk of run-off. It's a management issue. Having proper manure storage is the key. This allows you to apply when it's necessary.

Small operations are also contribute nutrients, but there are barriers to applying restrictions to these facilities.

Henry Marquard said that we can't not move forward with regulations or a rulemaking just because the regulated community doesn't like it. It's about protecting the environment. I would like to see a rule that would prevent manure run-off.

Claire Hruby said that we would propose to have a draft rule for stakeholders' review within the next month and one-half. We could possibly be back before the Commission for information in October or November if everything continues to move forward.

INFORMATION

NOTICE OF INTENDED ACTION, CHAPTER 61, WATER QUALITY STANDARDS, SECTION 401 CERTIFICATION OF SECTION 404 REGIONAL PERMIT 7 (RP 7)

Lori McDaniel, Supervisor in the Water Quality Bureau presented the following item.

The Commission is asked to approve the Notice of Intended Action to amend Chapter 61, "Water Quality Standards," Iowa Administrative Code. The proposed amendment will provide water quality certification pursuant to Section 401 of the federal Clean Water Act (33 U.S.C. Section 1341) for the re-issued Regional Permit 7 (RP 7). Section 401 water quality certification is a state water quality agency's certification that a proposed activity will not violate state water quality standards.

Regional Permit 7 (RP 7) authorizes fill material placed in waters of the United States for bridge or road crossings. RP 7 was initially issued in 1979 and has been re-issued in 1985, 1989, 1995, 1999, and 2002. This permit is used for Iowa Department of Transportation (IDOT) and Iowa County and City Engineers' bridge or road crossing projects. Since this permit has been granted Section 401 Water Quality Certification in the past, the only change to Chapter 61 will be the effective date of the rule change.

The Corps issued the public notice for the re-issuance of RP 7 with some modifications on February 4, 2008 and it expired on March 4, 2008. A copy of the February 4, 2008 Public Notice can be obtained from the Department of Natural Resources (DNR). The Corps received

no comments from the Environmental Protection Agency, the U.S. Fish and Wildlife Service, or from the public. Several Indian Tribes provided comments stating they had no objections to the re-issuance of this RP, but requested that the Corps condition the RP so that construction authorized under this RP immediately stop if any items falling under the Native American Graves Protection and Repatriation Act are discovered. At that time, the Tribes will be notified for further consultation.

RP 7 was revised to be not only easier to understand but also contain more of the standard conditions that would be found in an individual permit for a bridge or road crossing project (e.g., the type of material that can be used as a temporary crossing, that wetland mitigation must be provided for any project impacting more than 0.10 acre of wetland, etc.) The revised RP 7 will allow the placement of 1,000 cubic yards of material to be "placed below the plane of ordinary high water or in wetland areas". The former RP 7 only allowed 500 cubic yards.

The IDOT had the opportunity to review and comment on the draft RP 7 prior to the Corps issuing the public notice with the final version of RP 7.

Motion was made by Sue Morrow to approve the Notice of Intended Action – Chapter 61 as presented. Seconded by Susan Heathcote. Motion carried unanimously.

APPROVED AS PRESENTED

PROPOSED RULE – AMEND CHAPTER 107 BY ADOPTING NEW RULE 567-107.16(455C) "INDEPENDENT REDEMPTION CENTER GRANT PROGRAM"

Bill Blum in the Land Quality presented the following item.

The Commission is requested to approve the Notice of Intended Action to amend 567-Chapter 107 by adopting new subrule [567] 107.16(455C) "Independent redemption center grant program."

This amendment is being proposed to establish criteria for awarding grants to independent redemption centers for making improvements to such centers. The grant program is the result of recently passed legislation, House File 2700, dedicating one million dollars from the general fund of the state for improvements to independent redemption centers in existence prior to July 1, 2008.

By making this approval today, the Commission is enabling the expedited effective date of this rule. This is justified under Iowa Code sections 17A.5(2)(b)(2) because the rule confers a benefit on the public.

On July 30th, the Notice of Intended Action will be published. The public hearing will be on August 19th. We will be back in September for final approval. It won't be until October before we can start writing grants therefore money will probably not be distributed until November.

Commissioners agreed that they would like to see this implemented as soon as possible.

Ed Tormey advised the Commission that the Governor's office would not favor an emergency filing of this rule per Iowa Code 17A.4(2).

Motion was made by Ralph Klemme to approve the Notice of Intended Action – Chapter 107 as presented. Seconded by Charlotte Hubbell. Motion carried unanimously.

APPROVED AS PRESENTED

MONTHLY REPORTS

Wayne Gieselman, Division Administrator, Environmental Protection Division, presented the following items.

The following monthly reports are enclosed with the agenda for the Commission's information and have been posted on the DNR website under the appropriate meeting month: http://www.iowadnr.com/epc/index.html

1. Rulemaking Status Report
2. Variance Report
3. Hazardous Substance/Emergency Response Report
4. Manure Releases Report
5. Enforcement Status Report
6. Administrative Penalty Report
7. Attorney General Referrals Report
8. Contested Case Status Report
9. Waste Water By-passes Report

INFORMATION

GENERAL DISCUSSION

Wayne Gieselman said the Department is dealing with two controversial hog confinements. One in Dallas County, where the County Supervisors were granted an extension until July? 13. There may be an appeal at the September meeting.

The Administrative Rules Review Committee delayed action on the voting requirement rule passed by this Commission last month. The ARRC would like the presence of a Commissioner to present the rule at their next meeting.

The landfill changes did pass through the ARRC.

During the flood, meetings were held with the field office every morning.

Ed Tormey gave an update on the de-delegation petition regarding NPDES authority. This petition was brought forth by ICCI, Environmental Integrity Project and the Sierra Club. There will be a rulemaking coming out of this.

[Barb Lynch, DNR Bureau Chief for Field Services gave a PowerPoint presentation on the DNR's flood response.]

It was directed that the letter to the Attorney General from Commissioners Heathcote, Johnson, Hubbell and Morrow regarding the voting requirements rule be included in the May minutes.

NEXT MEETING DATES

August 2008 – DNR Air Quality Building, Urbandale.

ADJOURNMENT

With no further business to come before the Environmental Protection Commission, Chairperson Henry Marquard adjourned the meeting at 4:10 p.m., Tuesday, July 8, 2008.

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Richard A. Leopold, Director

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Henry Marquard, Chair

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Suzanne Morrow, Secretary

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